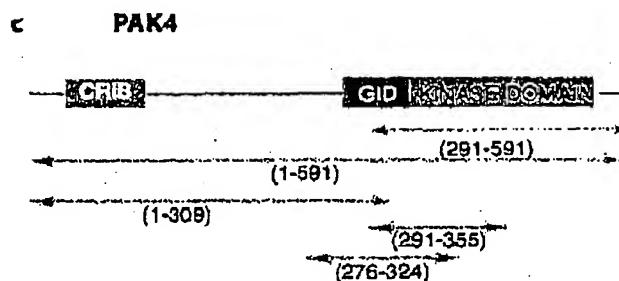
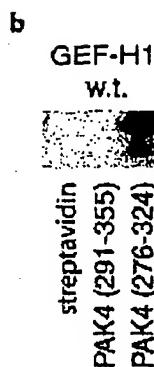
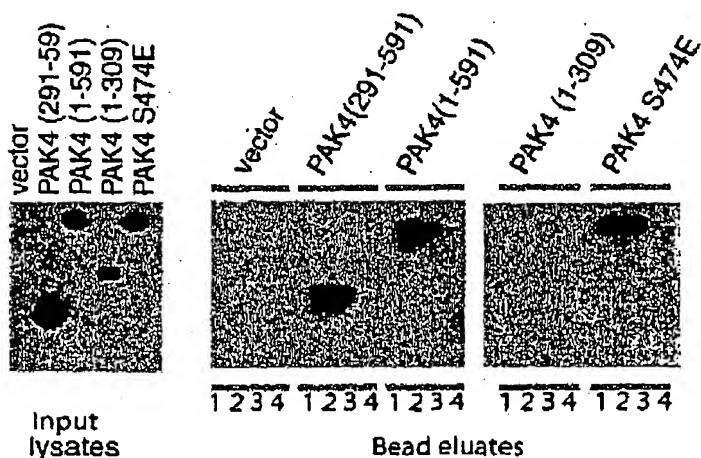


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GST
GST-GEF-H1(763-921)
GST-GEF-H1(763-921)
GST-Maguin-like



d

GID (GEF INTERACTION DOMAIN)

276 C-----TPAABAVEGPPPGPRGPQREFORVSRTECFRAALOLVVDECDPERSYLDNE 324 PAK4

399 SYLSSLSLSSSTYEPPESWGSSSDQQPSRVSHIGCFRAALOLVVSPCDPREGHANFIK 454 PAK5

359 ISTSNEYE--EQDETVAKGALAGEDTGVVVIECFKAALRMVVWDQGDRILLIDSYVK 412 PAK6

Fig 1. In vitro association of GEF-H1 with PAK4 alleles and subdomains.

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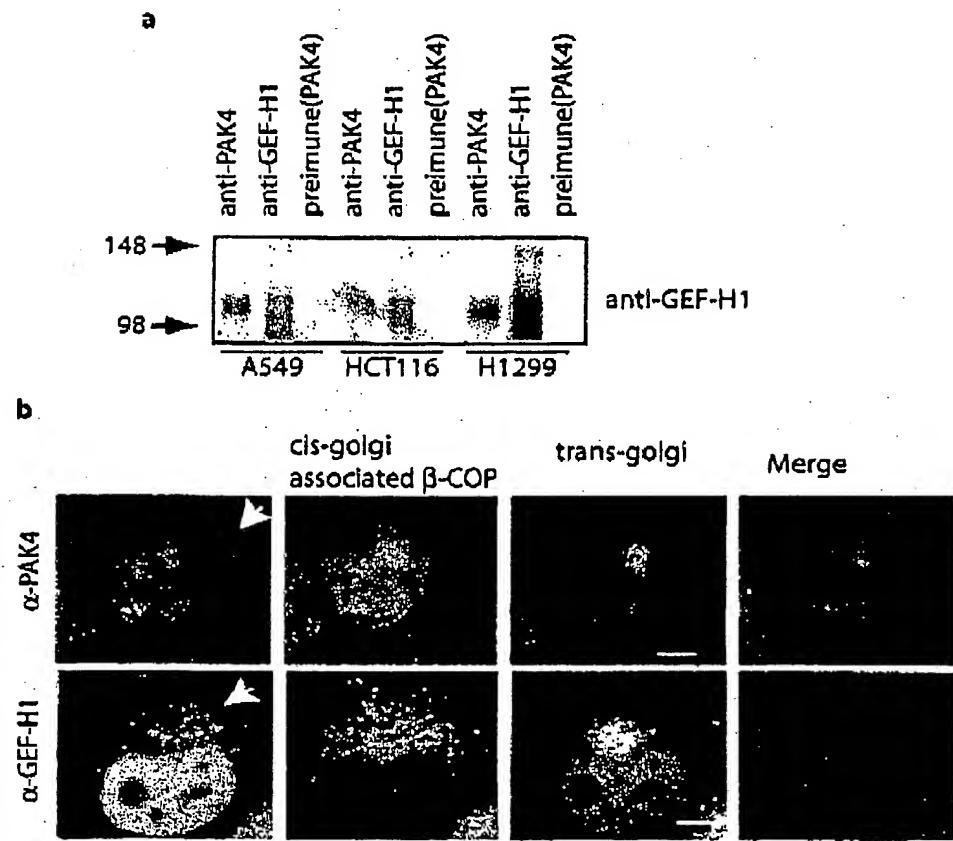


Fig. 2. PAK4 and GEF-H1 co-associate.

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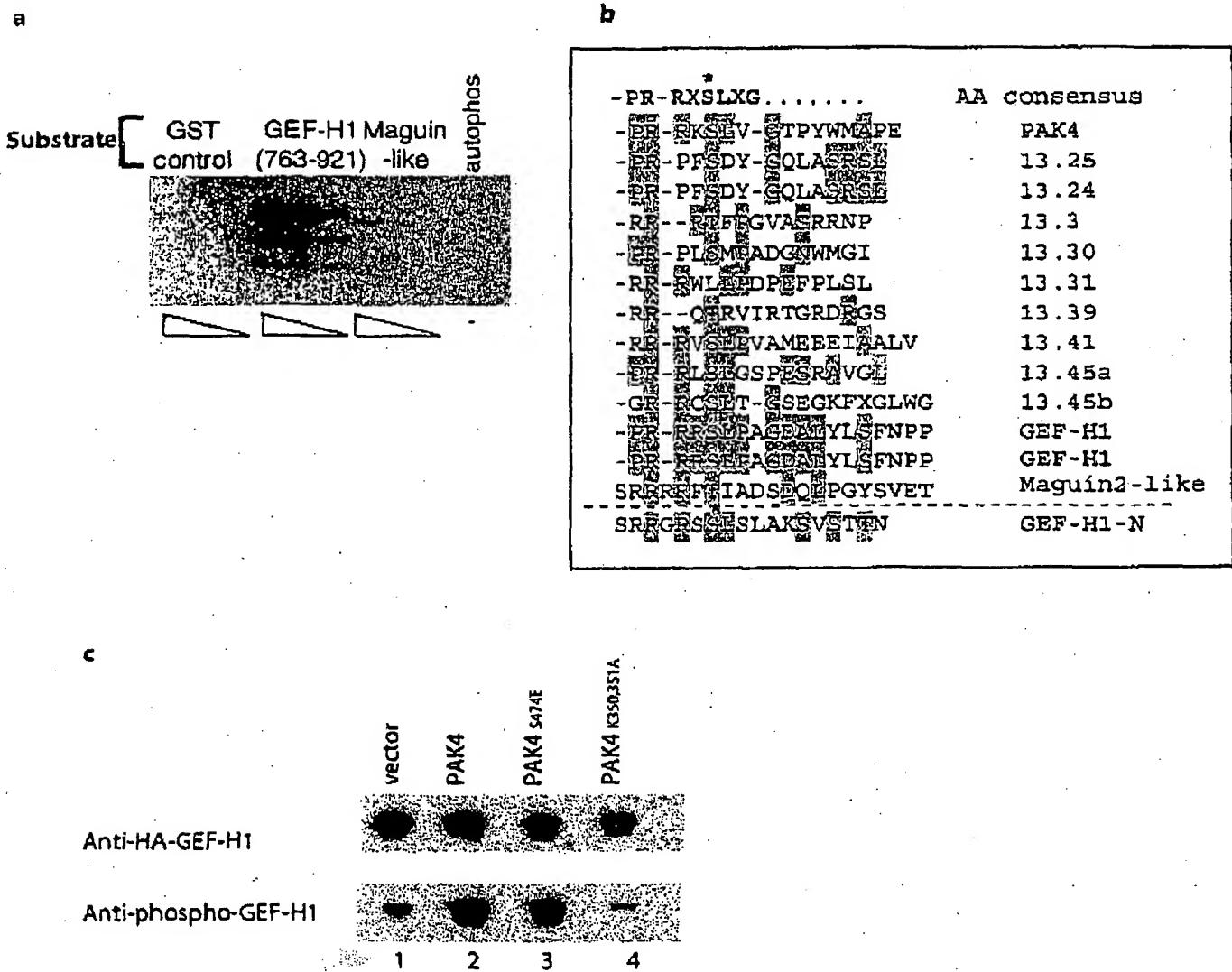


Fig. 3. PAK4 phosphorylates GEF-H1 in vitro and in vivo.

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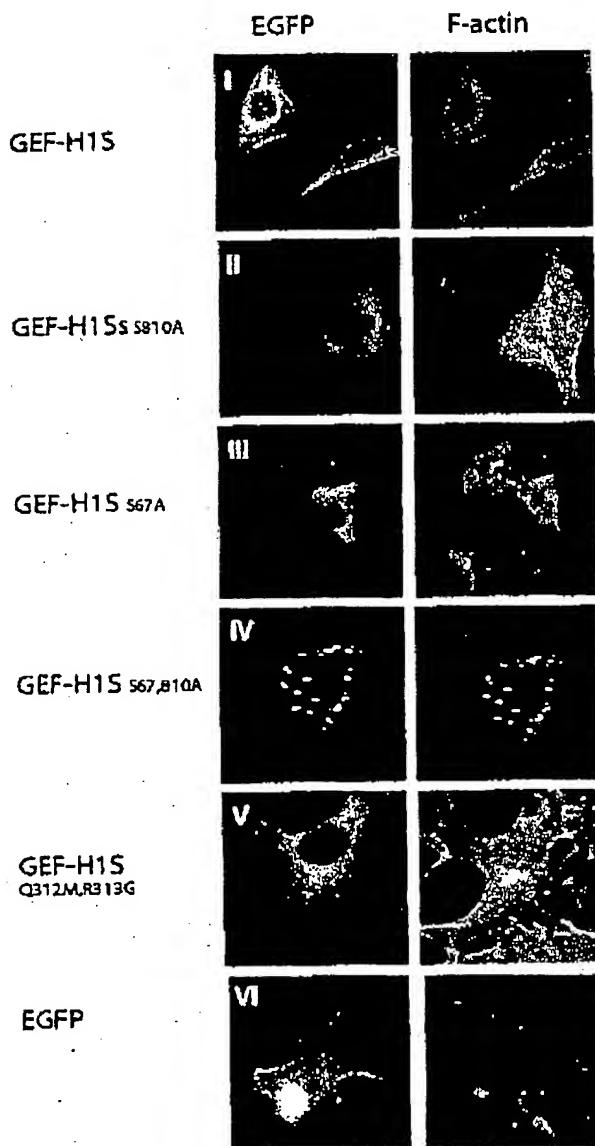


Fig 4. Morphological effects of GEF-H1 alleles.

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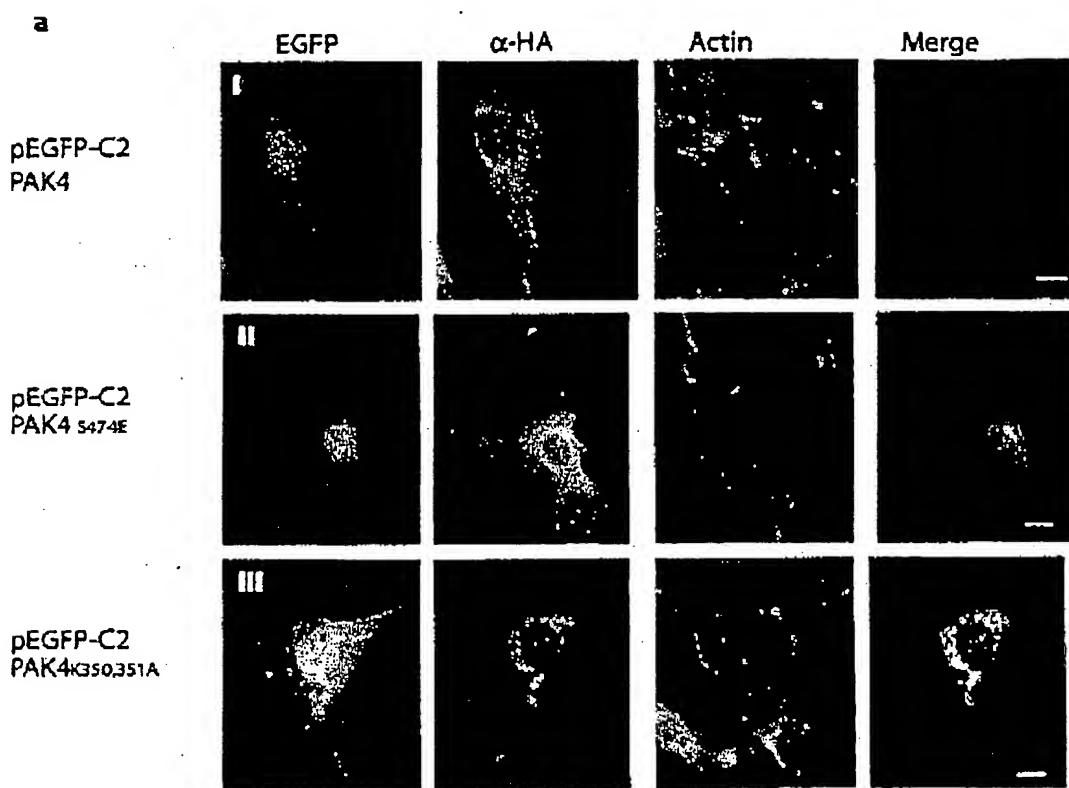


Fig 5a. PAK4 effects on the actin cytoskeleton

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b

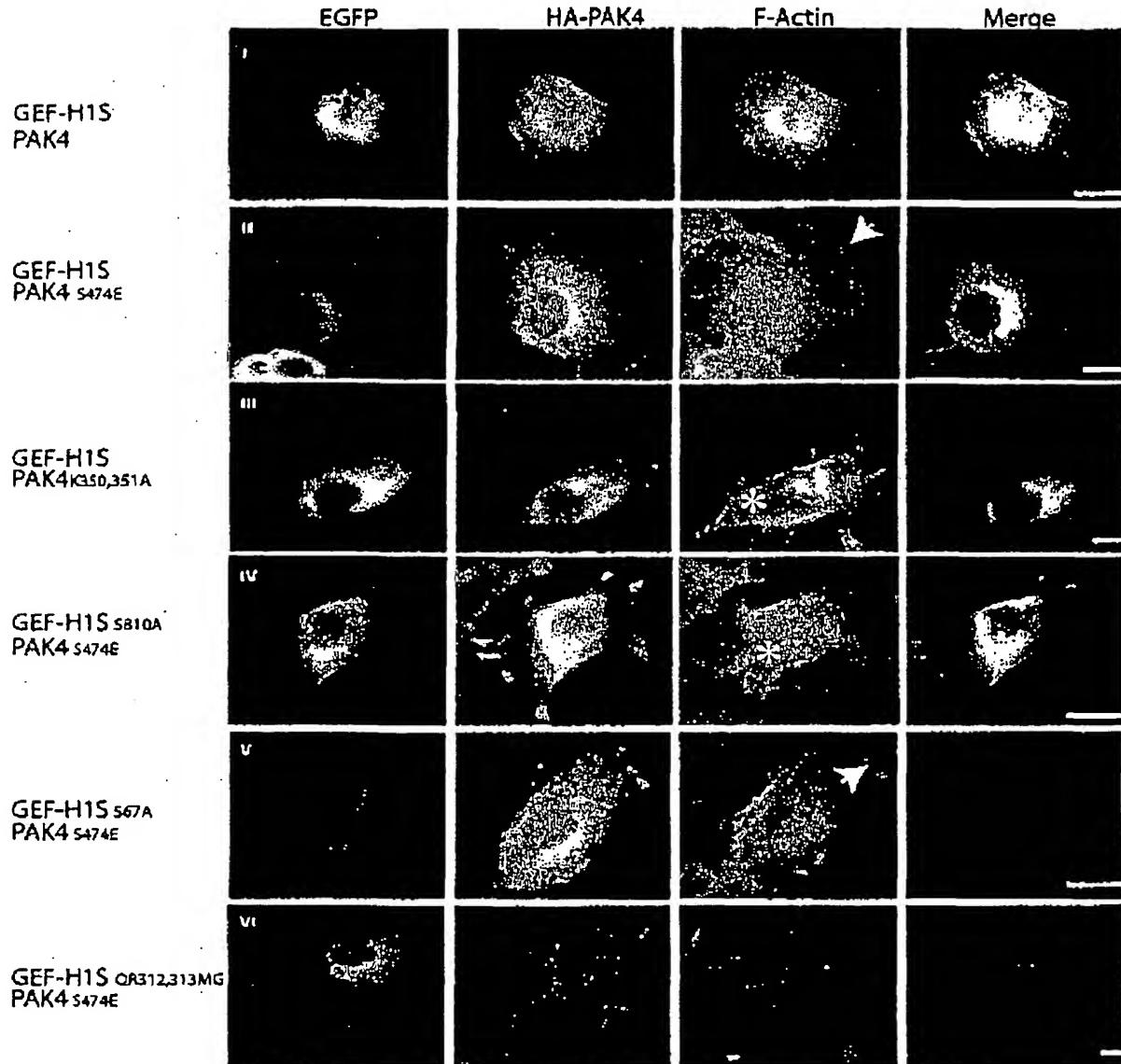


Fig 5b. PAK4 regulates lamellipodia formation through phosphorylation of S810.

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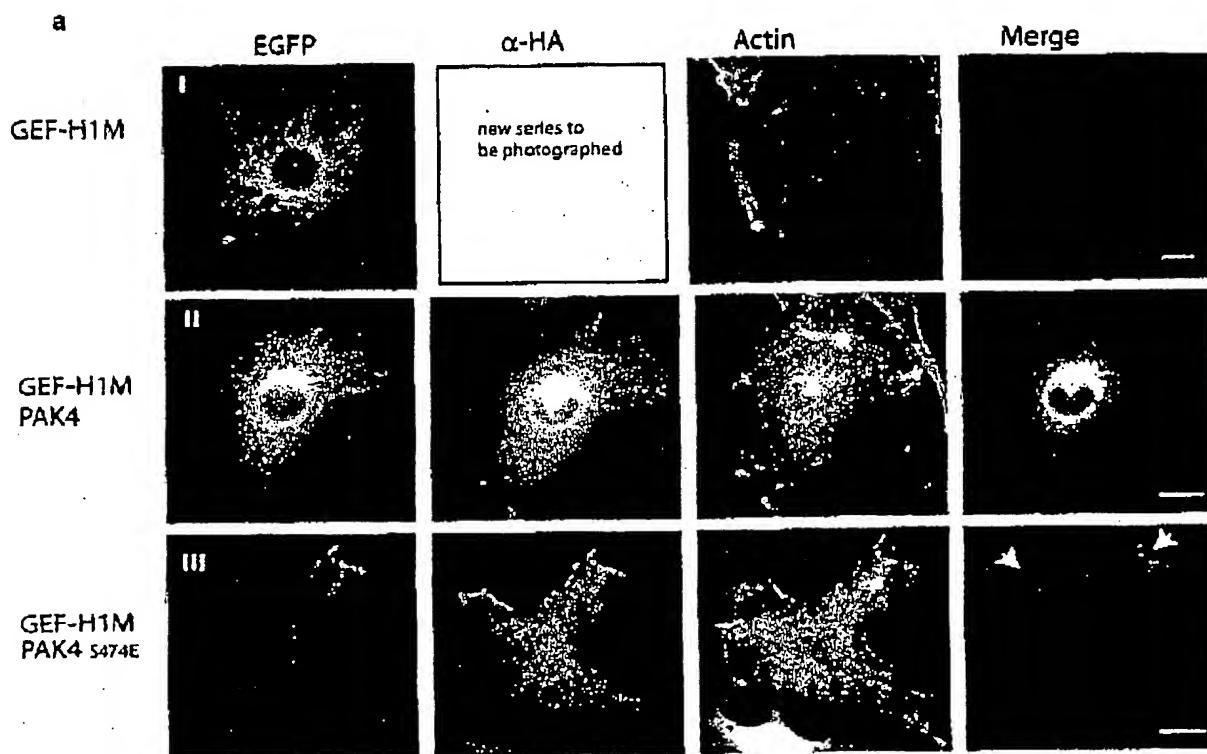


Fig 6a.PAK4 signalling through GEF-H1M to the actin cytoskeleton.

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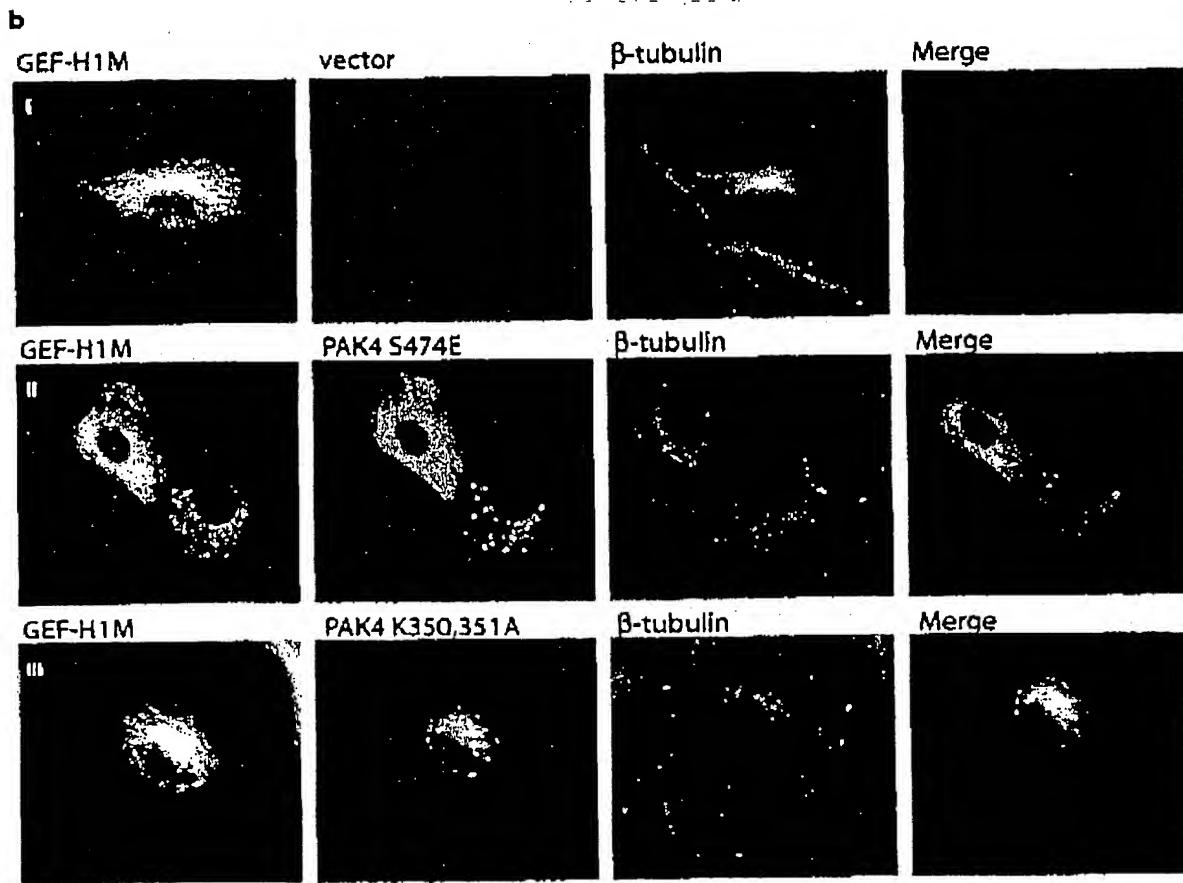


Fig 6b. PAK4 activity destabilizes GEF-H1M association with MTs.

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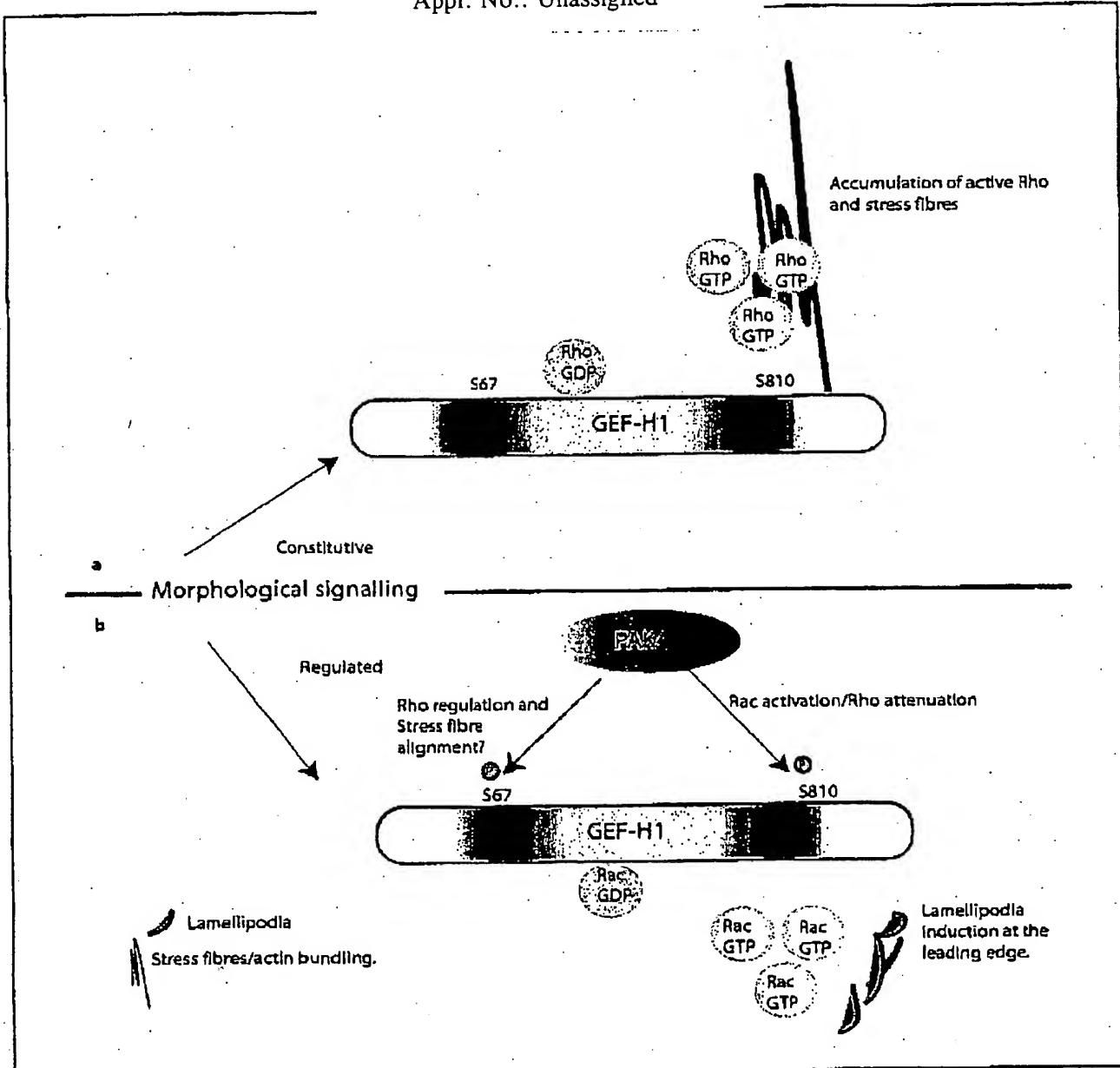


Fig 7. Model for reciprocal regulation of Rac and Rho *in vivo*.

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Phosphorylation scores GEF-H1 proteins and peptides.

FIGURE 8

a.

	PEPTIDE	PHOSPHORYLATION
681	RRKSLVGTPYWMAP	PAK4 act loop +++++
1008	RRRSLPAGDALYLSFNPP	GEFH1 (807-824) +++++
1009	RRRS LPAGDALYLSFNPP	GEFH1 (807-824) -
1010	RRRSLPAGDALYLSFNPP	GEFH1 (807-824) +++++
1412	RQSILLGSRRGRS SLSLAK	GEFH1 (55-72) -
1413	RQSILLGSRRGRSS SLSLAK	GEFH1 (55-72) -
1414	RQSILLGSRRGRS SLSLAK	GEFH1 (55-72) +++++

b.

POLYPEPTIDE	PHOSPHORYLATION
1-386	++++
386-921	++
763-921	++++
51-921 _{s810A}	++++
386-921 _{s810A}	-
807-824	++++
55-72	++

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FIGURE 9 GEF-H1 regulatory regions are conserved with Cdc24

- PR-RXSLXG.. Consensus
-----PEQOLAYOSSEVESE -- ROSELSONQEEELKSNCANRD Cdc24 (62-99)
SLRSKTTIRERPSEAIYPSDSFROSILACSRGRSSESLAKSVSTTN GEF-H1M and S

- PR-RXSLXG.. Consensus
-----QH -- DSGMASFSSSHMKRVSDVLPK - RRTTGSFPESEIKSSEN Cdc24 (712-752)
CQWPLPAAFPWARRPWB -----PR-RXSLPAG-DALYLISFNPPQPSRGTD GEF-H1M and S

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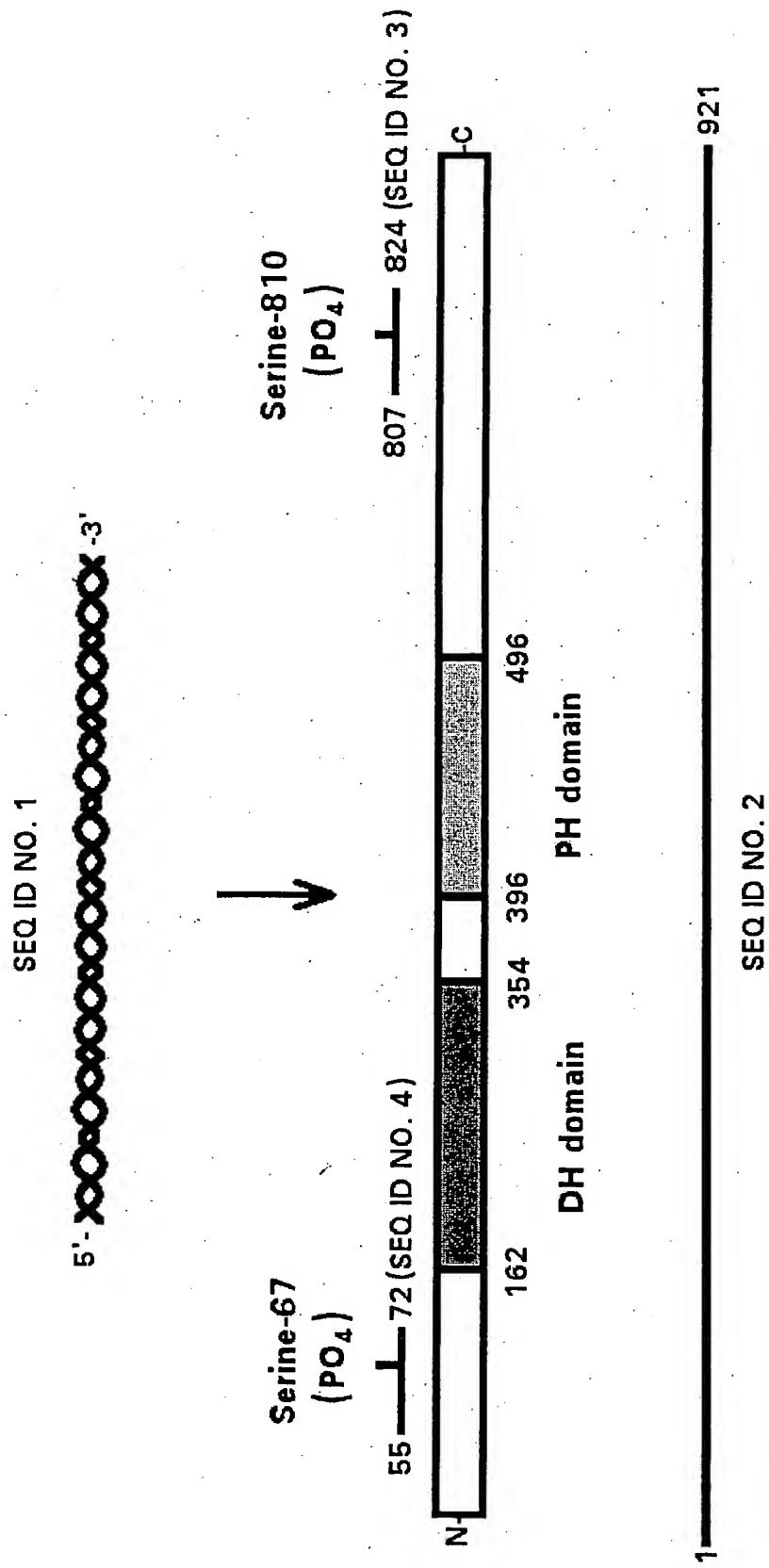


Figure 10